



US006778470B1

(12) **United States Patent**  
**Monahan et al.**

(10) Patent No.: **US 6,778,470 B1**(45) Date of Patent: **Aug. 17, 2004**(54) **MOUNTABLE SYNTACTIC FOAM SENSOR HOUSING**(75) Inventors: **Patrick J. Monahan**, Galcs Ferry, CT (US); **Robert S. Janus**, Middletown, RI (US)(73) Assignee: **The United States of America as represented by the Secretary of the Navy**, Washington, DC (US)

Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **10/663,057**(22) Filed: **Sep. 15, 2003**(51) Int. Cl.<sup>7</sup> ..... **H04R 17/00; H04R 1/28**(52) U.S. Cl. .... **367/188; 367/141; 367/153**(58) Field of Search ..... **367/141, 153, 367/176, 188; 73/649; 310/337**(56) **References Cited****U.S. PATENT DOCUMENTS**

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*Primary Examiner*—**Ian J. Lobo**(74) *Attorney, Agent, or Firm*—**James M. Kasischke; Michael P. Stanley; Michael F. Oglo**(57) **ABSTRACT**

A encapsulation method of an acoustic sensor module and a resultant lightweight watertight acoustic sensor module for use in towed array retrieval systems. In the method, a composite is cast to encapsulate the support between end plates of the module, an exterior of a passage tube in which the array is retrieved, transducers positioned on the tube exterior and supporting telemetry lines for the transducers. The components, listed previously, are cast into a block of the cured composite such that the arrangement of the components is fixed. Residual composite emitting from an aperture of an end plate allows a conductor for the telemetry lines to be potted into the composite with an end of the conductor free from the composite thereby allowing connection to an external controller or generator.

**10 Claims, 6 Drawing Sheets**

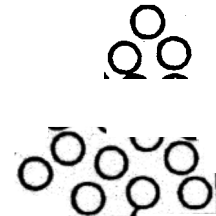
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